temperature which Hopkins has shown cannot be referred to a cooling nucleus and to differences of conductivity alone. He further shows that this view of the origin of volcanic heat is independent of any particular thickness being assigned to the earth's solid crust, or to whether there be at present a liquid fused nucleus, all that is necessary being a *hotter* nucleus than crust, so that the rate of contraction is greater for the former than the latter. The author then points out that, as the same play of tangential pressures has elevated the mountain-chains in past epochs, the nature of the forces employed sets a limit to the height of mountain possible of the materials of our globe.

That volcanic action due to the same class of forces was more energetic in past time, and is not a uniform but a decaying energy now. Lastly, he brings his views into relation with vulcanicity produced in like manner in other planets, or in our own satellite, and shows that it supplies an adequate solution of the singular and so far unexplained fact that the elevations upon our moon's surface, and the evidences of former volcanic activity, are upon a scale so vast when compared with those upon our globe.

Finally, he submits that if his view will account for all the known facts, leaving none inexplicable, and presenting no irreconcilable conditions or necessary deductions, then it should be accepted as a true picture of nature.

VIII. "On some Properties of Anhydrous Liquefied Ammonia." By G. Gore, F.R.S. Received May 15, 1872.

(Abstract.)

This investigation was made for the purpose of ascertaining the general solvent properties of the liquid, and to detect any manifest chemical reactions between it and various substances. The method employed was precisely similar to that used in the examination of liquid cyanogen (see Proc. Roy. Soc. No. 131, 1871), the tubes being charged with anhydrous chloride of calcium previously saturated with the ammonia vapour.

Two hundred and fifty substances were submitted to contact with the liquid, and the general results in each case recorded. The only elementary substances soluble in it were the alkali-metals proper, also iodine (bromine was not tried), sulphur, and phosphorus. The more frequently soluble inorganic salts were nitrates, chlorides, bromides, and iodides; whilst oxides, fluorides, carbonates, sulphides, and sulphates were very generally insoluble. Many saline substances, especially certain chlorides, bromides, iodides, and sulphates, absorbed ammonia freely, and swelled greatly, but did not dissolve. The behaviour of the chlorides of mercury was peculiar.

Various compounds of carbon were submitted to the action of the solution of potassium in the liquefied vapour; the free potassium disappeared, but no elementary carbon was liberated.